

Curriculum Vitae



I. Personal Information:

Name&Full Name: Davood Iranshahi

Date of Birth: 26, June, 1982

Place of Birth: Khomien-Markazi Province-Iran

Marital Status: Married

Academic Title: Assistant Professor, School of Chemical Engineering, Amirkabir University of Technology (Tehran Polytechnic)

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II. Education:

1997-2001: Received High School Diploma in Mathematics and Physics

2002-2006: Received **B.Sc.** in chemical engineering (Petrochemical industry) from Shiraz University

2006-2008: Received **M.Sc.** in chemical engineering (Chemical Engineering-Process Design) from Tehran University

Thesis title: Removal of Nickel Ions from Industrial Wastewaters in Anaerobic Condition Using Magnetic Iron oxide Nanoparticles

2008-2012: Received **PhD** in Chemical Engineering Department

Thesis title: Simulation, improvement and optimization of naphtha reforming process for enhancement of aromatic production and octane number of gasoline

III. Computer Skills:

Programming languages: Matlab

Industrial Packages: Hysys, Aspen Plus, Aspen water, Aspen ADSIM, Minitab

General Packages: Microsoft Office

IV. Honors:

Spring 2006: Ranked 2 in M.s Nationwide Entrance Exam

Spring 2007: Invention in production of magnetite iron oxide nanoparticles

Fall 2008: Ranked 1 in PhD Entrance Exam of Shiraz University

Fall 2008: Joined the Office of talent

Fall 2010: Ranked 1 in candidacy exam of Shiraz University

Spring 2012: Selected as Outstanding student of Shiraz University

Spring 2013: Ranked 3 in 1st Festival on the Selection of Outstanding Student Theses in Chemical Engineering (by Iranian Association of Chemical Engineers)

V. Languages Skills:

1. Persian (Native Language)

2. English

VI. Teaching Experience:

1. Maad Institute:

Chemical Engineering courses, Nationwide Entrance Exam courses-Mathematics,

physics, Chemistry

2. Azad university-Shiraz branch:

BSc. Level: Two phase fluid flow, Process control, Plant design

3. Azad university-Marvdasht branch:

BSc. Level: Hysys, Fluid Mechanics, Heat Transfer, Thermodynamics, Mass transfer

4. Azad university-Bushehr branch:

BSc. Level: Process Control, Plant Design and Economics

5. Shiraz University:

BSc. Level:

Unit Operation (II), Kinetics and Reactor Design, Engineering mathematics, Applied mathematics in Chemical Engineering, Applied mathematics in Petroleum Engineering

MSc. Level:

Advanced mathematics, Advanced Kinetics and Chemical Reactor Design

6. Amirkabir University of Technology (Polytechnic of Tehran):

BSc. Level:

Kinetics and Reactor Design, Heat transfer (II)

MSc. Level:

Industrial and Special Reactors, Advanced Kinetics and Reactor Design

VII. Research Experiences:

Summer 2003: A Project about Surface Tension

Spring 2004: A Project about Exergy of Buildings

Spring 2006: A Project about Nanosafety (For Iranian Nanotechnology Initiative)

VIII. Publications:

a. ISI Journal Publications:

[1] S. Rimaz, **D. Iranshahi**, *A Novel CLC Assisted Catalytic Naphtha Reforming process for Simultaneous Carbon Dioxide Capture and Hydrogen Production Enhancement*, **Energy and Fuels**, 2015 (2015) 2022–2033.
Impact Factor: 2.733

[2] **D. Iranshahi**, A. Bakhshi Ani, *A Novel Radial-Flow, Spherical Packed Bed Reactor for Hydrocracking Process*, **Industrial & Engineering Chemistry Research**, 54 (2015) 1748–1754.

Impact Factor: 2.235

[3] N. Hamed, T. Tohidian, M.R. Rahimpour, **D. Iranshahi**, S. Raeissi, *Conversion enhancement of heavy reformates into xylenes by optimal design of a novel radial flow packed bed reactor, applying a detailed kinetic model*, **Chemical Engineering Research and Design**, 95 (2015) 317–336.

Impact Factor: 2.281

[4] E. Anbari, H. Adib, **D. Iranshahi**, *Experimental investigation and development of a SVM model for hydrogenation reaction of carbon monoxide in presence of Co-Mo/Al₂O₃ catalyst*, **Chemical Engineering Journal**, 276 (2015) 213-221.

Impact Factor: 4.321

[5] H. Nouryzadeh, **D. Iranshahi**, *Hydrogen and gasoline production through the coupling of Fischer–Tropsch synthesis and cyclohexane dehydrogenation in a thermally coupled membrane reactor*, **Petroleum & Coal**, 56 (2014) 231-248.

Impact Factor: - , ISSN: 13377027

[6] H. Nouryzadeh, **D. Iranshahi**, *A comparative study of serial and parallel flows of the sweeping gas in tubular membrane reactor in the presence of catalyst deactivation for catalytic naphtha reforming process*, **Petroleum & Coal**, 56 (2014) 282-301.

Impact Factor: - , ISSN: 13377027

[7] M. Karimi, M.R. Rahimpour, R. Rafiei, M. Jafari, **D. Iranshahi**, A. Shariati, *Reducing environmental problems and increasing saving energy by proposing new configuration for moving bed thermally coupled reactors*, **Journal of Natural Gas Science and Engineering**, 17 (2014) 136-150.

Impact Factor: 1.406

[8] **D. Iranshahi**, M. Karimi, S. Amiri, M. Jafari, R. Rafiei, M.R. Rahimpour, *Modeling of naphtha reforming unit applying detailed description of kinetic in continuous catalytic regeneration process*, **Chemical Engineering Research and Design**, 92 (2014) 1704-1727.

Impact Factor: 2.281

[9] N. Hamed, **D. Iranshahi**, M.R. Rahimpour, S. Raeissi, H. Rajaei, *Development of a detailed reaction network for industrial upgrading of heavy reformates to xylenes using differential evolution technique*, **Journal of the Taiwan Institute of Chemical Engineers**, 48 (2014) 56–72.

Impact Factor: 3

[10] M.R. Rahimpour, M. Jafari, **D. Iranshahi**, *Progress in catalytic naphtha reforming process: A review*, **Applied Energy**, 109 (2013) 79-93.

Impact Factor: 5.261

[11] M. Jafari, R. Rafiei, S. Amiri, M. Karimi, **D. Iranshahi**, M.R. Rahimpour, H. Mahdiyar, *Combining continuous catalytic regenerative naphtha reformer with thermally coupled concept for improving the process yield*, **International Journal of Hydrogen Energy**, 38 (2013) 10327-10344.

[12] **D. Iranshahi**, M.R. Rahimpour, K. Paymooni, E. Pourazadi, *Utilizing DE optimization approach to boost hydrogen and octane number, through a combination of radial-flow spherical and tubular membrane reactors in catalytic naphtha reformers*, **Fuel**, (2013).

Impact Factor: 3.406

[13] **D. Iranshahi**, R. Rafiei, M. Jafari, S. Amiri, M. Karimi, M.R. Rahimpour, *Applying new kinetic and deactivation models in simulation of a novel thermally coupled reactor in continuous catalytic regenerative naphtha process*, **Chemical Engineering Journal**, 229 (2013) 153-176.

Impact Factor: 4.058

[14] **D. Iranshahi**, M. Jafari, R. Rafiei, M. Karimi, S. Amiri, M.R. Rahimpour, *Optimal design of a radial-flow membrane reactor as a novel configuration for continuous catalytic regenerative naphtha reforming process considering a detailed kinetic model*, **International Journal of Hydrogen Energy**, 38 (2013) 8384-8399.

Impact Factor: 2.930

[15] **D. Iranshahi**, S. Amiri, M. Karimi, R. Rafiei, M. Jafari, M.R. Rahimpour, *Modeling and Simulation of a Novel Membrane Reactor in Continuous Catalytic Regenerative (CCR) Naphtha Reformer Accompanied with Detailed Description of Kinetic*, **Energy & Fuels**, (2013).

Impact Factor: 2.733

[16] S. Amirabadi, S. Kabiri, R. Vakili, **D. Iranshahi**, M.R. Rahimpour, *Differential Evolution Strategy for Optimization of Hydrogen Production via Coupling of Methylcyclohexane Dehydrogenation Reaction and Methanol Synthesis Process in a Thermally Coupled Double Membrane Reactor*, **Industrial and Engineering Chemistry Research**, 53 (2013) 1508-1522.

Impact Factor: 2.235

[17] M.R. Rahimpour, **D. Iranshahi**, E. Pourazadi, A.M. Bahmanpour, *Boosting the gasoline octane number in thermally coupled naphtha reforming heat exchanger reactor using de optimization technique*, **Fuel**, (2012).

Impact Factor: 3.406

[18] M.R. Rahimpour, **D. Iranshahi**, K. Paymooni, E. Pourazadi, *Enhancement in research octane number and hydrogen production via dynamic optimization of a novel spherical axial-flow membrane Naphtha reformer*, **Industrial and Engineering Chemistry Research**, 51 (2012) 398-409.

Impact Factor: 2.235

[19] M.R. Rahimpour, M.R. Dehnavi, F. Allahgholipour, **D. Iranshahi**, S.M. Jokar, *Assessment and comparison of different catalytic coupling exothermic and endothermic reactions: A review*, **Applied Energy**, 99 (2012) 496-512.

Impact Factor: 5.261

[20] M.R. Rahimpour, M. Arabpour, **D. Iranshahi**, S. Raeissi, *Utilization of cyclohexanol dehydrogenation in a novel thermally coupled reactor for Fischer–Tropsch synthesis in gas to liquid technology*, **Journal of Natural Gas Science and Engineering**, 9 (2012) 138-148.

Impact Factor: 1.406

[21] R. Rafiei, S. Amiri, A. Mirvakili, **D. Iranshahi**, M.R. Rahimpour, *Decalin Loop in an Optimized Thermally Coupled Dual Methanol Reactor Using Differential Evolution (DE) Strategy*, **Energy & Fuels**, 26 (2012) 5858-5871.

Impact Factor: 2.733

[22] E. Pourazadi, R. Vakili, **D. Iranshahi**, A. Jahanmiri, M.R. Rahimpour, *Optimal design of a thermally coupled fluidised bed heat exchanger reactor for hydrogen production and octane improvement in the catalytic naphtha reformers*, **Canadian Journal of Chemical Engineering**, 91 (2012) 54-65.

Impact Factor: 1.313

[23] E. Pourazadi, **D. Iranshahi**, M.R. Rahimpour, A. Jahanmiri, *Incorporating multi-membrane tubes for simultaneous management of H_2/HC and hydrogenation of nitrobenzene to aniline in naphtha heat exchanger reactor*, **Chemical Engineering Journal**, 184 (2012) 286-297.

Impact Factor: 4.058

[24] **D. Iranshahi**, E. Pourazadi, K. Paymooni, M.R. Rahimpour, *Utilizing DE optimization approach to boost hydrogen and octane number in a novel radial-flow assisted membrane naphtha reactor*, **Chemical Engineering Science**, 68 (2012) 236-249.

Impact Factor: 2.613

[25] **D. Iranshahi**, E. Pourazadi, K. Paymooni, M.R. Rahimpour, *A novel dynamic membrane reactor concept with radial-flow pattern for reacting material and axial-flow pattern for sweeping gas in catalytic naphtha reformers*, **AIChE Journal**, 58 (2012) 1230-1247.

Impact Factor: 2.581

[26] **D. Iranshahi**, K. Paymooni, A. Goosheneshin, M. Rahimpour, *Hydrogen and octane boosting through a novel configuration consists of isothermal and membrane naphtha reforming reactors- A comparative study*, **Petroleum and Coal**, 54 (2012) 157-173.

Impact Factor: - , ISSN: 13377027

[27] **D. Iranshahi**, A.M. Bahmanpour, E. Pourazadi, M.R. Rahimpour, *A comparative study on optimised and non-optimised axial flow, spherical reactors in naphtha reforming process*, **Canadian Journal of Chemical Engineering**, 90 (2012) 1102-1111.

Impact Factor: 1.313

[28] A. Goosheheshin, R. Maleki, **D. Iranshahi**, M.R. Rahimpour, A. Jahanmiri, *Simultaneous production and utilization of methanol for methyl formate synthesis in a looped heat exchanger reactor configuration*, **Journal of Natural Gas Chemistry**, 21 (2012) 661-672.

Impact Factor: 1.788

[29] M. Arabpour, M.R. Rahimpour, **D. Iranshahi**, S. Raeissi, *Evaluation of maximum gasoline production of Fischer-Tropsch synthesis reactions in GTL technology: a discretized approach*, **Journal of Natural Gas Science & Engineering**, 9 (2012) 209-219.

Impact Factor: 1.406

[30] R. Vakili, P. Setoodeh, E. Pourazadi, **D. Iranshahi**, M.R. Rahimpour, *Utilizing differential evolution (DE) technique to optimize operating conditions of an integrated thermally coupled direct DME synthesis reactor*, **Chemical Engineering Journal**, 168 (2011) 321-332.

Impact Factor: 4.058

[31] M.R. Rahimpour, R. Vakili, E. Pourazadi, **D. Iranshahi**, K. Paymooni, *A novel integrated, thermally coupled fluidized bed configuration for catalytic naphtha reforming to enhance aromatic and hydrogen productions in refineries*, **International Journal of Hydrogen Energy**, 36 (2011) 2979-2991.

Impact Factor: 2.930

[32] M.R. Rahimpour, R. Vakili, E. Pourazadi, A.M. Bahmanpour, **D. Iranshahi**, *Enhancement of hydrogen production via coupling of MCH dehydrogenation reaction and methanol synthesis process by using thermally coupled heat exchanger reactor*, **International Journal of Hydrogen Energy**, 36 (2011) 3371-3383.

Impact Factor: 2.930

[33] M.R. Rahimpour, E. Pourazadi, **D. Iranshahi**, A.M. Bahmanpour, *Methanol synthesis in a novel axial-flow, spherical packed bed reactor in the presence of*

catalyst deactivation, **Chemical Engineering Research and Design**, 89 (2011) 2457-2469.

Impact Factor: 2.281

[34] M.R. Rahimpour, **D. Iranshahi**, E. Pourazadi, K. Paymooni, A.M. Bahmanpour, *The aromatic enhancement in the axial-flow spherical packed-bed membrane naphtha reformers in the presence of catalyst deactivation*, **AIChE Journal**, 57 (2011) 3182-3198.

Impact Factor: 2.581

[35] M.R. Rahimpour, **D. Iranshahi**, E. Pourazadi, K. Paymooni, *Evaluation of optimum design parameters and operating conditions of axial- and radial-flow tubular naphtha reforming reactors, using the differential evolution method, considering catalyst deactivation*, **Energy and Fuels**, 25 (2011) 762-772.

Impact Factor: 2.733

[36] M.R. Rahimpour, **D. Iranshahi**, E. Pourazadi, A.M. Bahmanpour, *A comparative study on a novel combination of spherical and membrane tubular reactors of the catalytic naphtha reforming process*, **International Journal of Hydrogen Energy**, 36 (2011) 505-517.

Impact Factor: 2.930

[37] V. Meidanshahi, A.M. Bahmanpour, **D. Iranshahi**, M.R. Rahimpour, *Theoretical investigation of aromatics production enhancement in thermal coupling of naphtha reforming and hydrodealkylation of toluene*, **Chemical Engineering and Processing: Process Intensification**, 50 (2011) 893-903.

Impact Factor: 1.959

[38] **D. Iranshahi**, E. Pourazadi, K. Paymooni, M.R. Rahimpour, A. Jahanmiri, B. Moghtaderi, *A dynamic membrane reactor concept for naphtha reforming, considering radial-flow patterns for both sweeping gas and reacting materials*, **Chemical Engineering Journal**, 178 (2011) 264-275.

Impact Factor: 4.058

[39] **D. Iranshahi**, E. Pourazadi, K. Paymooni, M.R. Rahimpour, *Enhancement of aromatic production in naphtha reforming process by simultaneous operation of isothermal and adiabatic reactors*, **International Journal of Hydrogen Energy**, 36 (2011) 2076-2085.

Impact Factor: 2.930

[40] **D. Iranshahi**, E. Pourazadi, A.M. Bahmanpour, M.R. Rahimpour, *A comparison of two different flow types on performance of a thermally coupled recuperative reactor containing naphtha reforming process and hydrogenation of nitrobenzene*, **International Journal of Hydrogen Energy**, 36 (2011) 3483-3495.

Impact Factor: 2.930

[41] **D. Iranshahi**, A.M. Bahmanpour, K. Paymooni, M.R. Rahimpour, A. Shariati, *Simultaneous hydrogen and aromatics enhancement by obtaining optimum temperature profile and hydrogen removal in naphtha reforming process; A novel theoretical study*, **International Journal of Hydrogen Energy**, 36 (2011) 8316-8326.

Impact Factor: 2.930

[42] M.R. Rahimpour, **D. Iranshahi**, A.M. Bahmanpour, *Dynamic optimization of a multi-stage spherical, radial flow reactor for the naphtha reforming process in the presence of catalyst deactivation using differential evolution (DE) method*, **International Journal of Hydrogen Energy**, 35 (2010) 7498-7511.

Impact Factor: 2.930

[43] **D. Iranshahi**, M.R. Rahimpour, A. Asgari, *A novel dynamic radial-flow, spherical-bed reactor concept for naphtha reforming in the presence of catalyst deactivation*, **International Journal of Hydrogen Energy**, 35 (2010) 6261-6275.

Impact Factor: 2.930

[44] **D. Iranshahi**, E. Pourazadi, K. Paymooni, A.M. Bahmanpour, M.R. Rahimpour, A. Shariati, *Modeling of an axial flow, spherical packed-bed reactor for naphtha reforming process in the presence of the catalyst deactivation*, **International Journal of Hydrogen Energy**, 35 (2010) 12784-12799.

Impact Factor: 2.930

[45] **D. Iranshahi**, A.M. Bahmanpour, E. Pourazadi, M.R. Rahimpour, *Mathematical modeling of a multi-stage naphtha reforming process using novel thermally coupled recuperative reactors to enhance aromatic production*, **International Journal of Hydrogen Energy**, 35 (2010) 10984-10993.

Impact Factor: 2.930

b. Conference Publications:

b-1: Abroad

- [1] V. Meidanshahi, A.M. Bahmanpour, M.R. Rahimpour, **D. Iranshahi**, *Investigation of the Naphtha Reforming Process and Hydrodealkylation of Toluene In a Novel Optimized Membrane Coupled Reactor*, in: AIChE Spring Meeting and 7th Global Congress on Process Safety, 11AIChE, Chicago, IL, 2011.
- [2] M.R. Rahimpour, M.R. Gholipour, M. Shokrollahiyancheshmeh, M.R. Dehnavi, S. Amirabadi, **D. Iranshahi**, *A novel recuperative configuration for enhancement of ethylene oxide production via integration of ethylene oxidation process and cyclohexane dehydrogenation*, in: AIChE Annual Meeting, 11AIChE, Minneapolis, MN, 2011.
- [3] M.R. Rahimpour, **D. Iranshahi**, M.R. Dehnavy, F. Allahgholipour, *A review of techniques for the process integration of coupling exothermic and endothermic reactions*, in: AIChE Spring Meeting and 7th Global Congress on Process Safety, 11AIChE, Chicago, IL, 2011.
- [4] M.R. Rahimpour, **D. Iranshahi**, E. Pourazadi, *Octane boosting in a membrane assisted radial flow naphtha reactor, using de optimization technique*, in: AIChE Spring Meeting and 7th Global Congress on Process Safety, 11AIChE, Chicago, IL, 2011.

b-2: Domestic-English

[1] P. Setoodeh, P. Parvasi, **D. Iranshahi**, M. Taheri, *Simulation of a Metal Foam Heat Exchanger Using Differential Evolution (DE)*, in: 1st International Conference on Heat Exchanger application in Oil & Energy Industries, Tehran, Iran, 2009.

[2] G. Amoabedini, A. Zolfaghari, J. Malakootikhah, **D. Iranshahi**, *Adsorption of Ni (II) Ions from Industrial Wastewater by Magnetite Nanoparticles*, in: First International Conference on "Advances in Wastewater Treatment and Reuse", Tehran University, 2010.